

GP3-0028
08CE7421-1

REMARKS

Claims 1 - 19 are pending in the present Application. Claims 1, 8 and 19 have been amended, leaving Claims 1 - 19 for consideration upon entry of the present Amendment. No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Amended Claims

Claims 1, 8 and 19 have been amended to better define the invention. Support for these amendments can be found in the original claims as filed. No new matter has been introduced by these amendments.

Rejection under 35 U. S. C. § 102 (b)

Claims 1 - 2, 6 and 13 - 17 are rejected under 35 U. S. C. § 102 (b) as allegedly being anticipated by U.S. Patent No. 5,360,861 to Richard Campbell et al (hereinafter Richard) (Office Action dated 01/25/2005, page 2).

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988).

Claim 1 of the application as presently amended is directed to an antistatic composition comprising a polycarbonate resin; an impact modifier comprising a polycarbonate-polysiloxane copolymer; an antistatic agent; and a flame retardant comprising phosphorus. Claim 19 is directed at a method of manufacturing the composition of Claim 1.

As noted by the Examiner, Richard discloses a molding thermoplastic polymer composite comprising (A) a polyester carbonate resin (B) a fibrous reinforcing agent (C) organopolysiloxane-polycarbonate copolymers (D) antistatic agents and (E) aromatic sulfonate fire-retarding agents. (see Col. 1, lines 64 - 68; see Col. 11, lines 13 - 53; see Col. 12, lines 36 - 39; see Col. 13, lines 19 - 37) While Richard teaches aromatic sulfonate fire-retarding agents, it does not teach flame retardants comprising phosphorus as presently claimed.

GP3-0028
08CE7421-1

For this reason at least, Richard does not teach all of the claimed elements and therefore cannot anticipate the present invention. Applicant respectfully requests a withdrawal of the rejection under 35 U. S. C. § 102(b) and an allowance of the claims.

Rejections under 35 U. S. C. § 103 (a)

Claims 1 – 19 are rejected under 35 U. S. C. § 103 (a) as being allegedly unpatentable over JP 11-199,767 to Kataoka (Kataoka) in view of U.S. Patent No. 5,360,861 to Richard Campbell et al. (Richard) or U. S Patent No. 6,221,939 to Campbell et al. (Campbell) or GB 2043083 to William et al. (William) (Office Action dated 01/25/2005, page 4).

In making the rejection, the Examiner has stated that

It would have been obvious to one with ordinary skill in the art to modify the anti-static/flame-retardant polycarbonate compositions of Kataoka by including organopolysiloxane-polycarbonate copolymer as the impact modifier per the teachings of Campbell (US-861) to benefit from improved resistance to the oxidation and elastic properties because Campbell teaches the addition of the polysiloxane-polycarbonate copolymer and acrylate copolymers as impact modifiers for polycarbonates in the analogous art, and further combine with the teachings of either Campbell (US-939) or William (GB-083) by using phosphoramides and/or organic phosphates flame retardants to benefit from enhanced flammability resistance properties per their teachings, and with the expectation of reasonable success because all the teachings are in the analogous art.

(Office Action dated 01/25/2005, page 6). Applicant respectfully disagrees.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q.

GP3-0028
08CE7421-1

494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Kataoka: Kataoka teaches a composition comprising (A) 50-80% aromatic polycarbonate resin, (B) 4.5-15% polyetheresteramide, (C) 3-12% phosphoric ester, (D) 1-25 wt.% of at least one inorganic filler selected from among talc having an average particle size of 0.5-10 μm , mica, glass flakes, and wollastonite having an average particle size of 0.5-10 μm , (E) 0.5-8% rubbery polymer, and (F) 0.05-1.5% polytetrafluoroethylene capable of forming fibrils (see Solution). In the examples, Kataoka teaches that the rubbery polymer is a polyacrylate-polysiloxane copolymer. Kataoka does not teach impact modifiers that comprise polycarbonate-polysiloxane copolymers as presently claimed and therefore does not teach all elements of the claimed invention.

Kataoka further teaches that its invention is directed to a flame retardant system that is halogen free, recyclable and environmentally friendly. (Page 1, paragraph [0005]). Kataoka teaches that if the system contains halogen, recycling may become impossible. (Page 1, paragraph [0005])

Richard: Richard discloses a molding thermoplastic polymer composite comprising (A) a polyester carbonate resin (B) a fibrous reinforcing agent (C) organopolysiloxane-polycarbonate copolymers (D) antistatic agents and (E) fire-retarding agents.

Applicants submit that there is no motivation to combine Richard with Kataoka since their teachings are mutually exclusive. As noted above, Kataoka teaches a halogen free system. Richard on the other hand, teaches that the preferred flame retardants are halogenated polycarbonate resins such as tetrabromophenol polycarbonate (Col 13, lines 34 - 37). Richard therefore teaches away from Kataoka and one of ordinary skill in the art upon reading these mutually exclusive teachings would not have sought to combine references in the manner made by the Examiner.

The Examiner has also stated that the motivation for combining Kataoka with Richard is improved resistance to oxidation and elastic properties. However, neither Kataoka nor Richard discloses improved resistance to oxidation. The Examiner's stated motivation for combining these references is therefore inaccurate. Similarly, the

GP3-0028
OSC/E7421-1

Examiner's contention that there is an improvement in elastic modulus is misleading, since Richard discloses that while there is a loss of impact modulus, it is not significant (Col. 2, lines 9 – 10). This can be clearly seen in Table I of Richard, where Example No. 3 having 0.5 wt% impact modifier shows a higher flexural modulus than Examples No. 4 and 5, which have higher loadings of the impact modifier. Thus the inclusion of the impact modifier seems to be detrimental to the modulus and not advantageous as claimed by the Examiner.

Similarly, in Table II, Examples 11 and 12 have lower impact strengths than Examples 9 and 10, despite the higher loading of impact modifier in Examples 11 and 12. Thus the Examiner's motivation for combining these references is inaccurate.

The lower values of elastic modulus and impact strength and the lack of reference to improved oxidation resistance would actually dissuade one of ordinary skill in the art from replacing the impact modifiers in Kataoka with those from Campbell.

Campbell: Campbell teaches resin compositions comprising a thermoplastic resin and at least one phosphoramidate having a glass transition point of at least about 0°C (see Abstract). Campbell does not teach an impact modifier that comprises a polycarbonate-polysiloxane copolymer. Thus the combination of Kataoka with Campbell does not teach all elements of the claimed invention.

Campbell, like Richard, also teaches the use of halogenated fire retardants (Col 12, line 59 -- 61). One of ordinary skill in the art would not have sought to use Campbell since it teaches away from Kataoka in disclosing the use of halogenated flame retardants. Thus, there is no motivation for one of ordinary skill in the art to combine Campbell with Kataoka and Richard.

Williams: Williams teaches flame retardant thermoplastic compositions comprising polyphenylene ether resins, with or without a styrene resin, and a flame retardant agent (see Abstract). Williams does not teach an impact modifier that comprises a polycarbonate-polysiloxane copolymer. Williams therefore does not make up for the deficiency of Campbell or Kataoka. Further, since Williams does not teach a polycarbonate-polysiloxane copolymer one of ordinary skill in the art would not have combined it with Kataoka as suggested by the Examiner.

GP3-0028
08CE7421-1

In addition, there is no motivation to combine Kataoka with Williams. The flame retardants of Williams contain halogens (see structures on page 1 and 2). The inclusion of halogens in the flame retardant structures would teach away from the desire of Kataoka to produce a halogen free system.

Further, it is submitted that the claimed combination produces unexpected results. A review of the Comparative Examples 2 and 3 in Table 1 on page 16 of the specification shows that when polycarbonate-polysiloxane impact modifiers are used in polycarbonate resins in conjunction with a flame retardant in an amount of less or equal to about 9 wt%, the flame retardancy as expressed by p(FTP) is significantly less than 1. However, when the amount of flame retardant is increased above 9 wt% as seen in the Examples 4, a flame retardancy of V-1 is achieved while maintaining impact properties of greater than or equal to about 6 ft-lbs/inch. The surface resistivity in the Examples 4 is less than 1×10^{13} ohm/sq. Example 4 in the present application can be compared with Example 12 of Richard, since they contain approximately the same amount of polycarbonate-polysiloxane impact modifier.

Example 4 in the present application contains 73 wt% polycarbonate (polymeric resin), while Example 12 has 79 wt% polymeric resin. Example 4 contains 5 wt% polycarbonate-polysiloxane impact modifier while Example 12 contains 6 wt% of the same impact modifier. Example 4 contains a combined amount of 21 wt% of additives (excluding the polymeric resin and the impact modifier) while Example 12 in Richard contains only 15 wt% of such additives. One of ordinary skill upon reviewing these two compositions would have predicted that since the Example 12 of Richard contains less additive and more impact modifier when compared with Example 4, it (i.e., Example 12) should have a much higher impact strength. .

However, as can be seen from the data, Example 12 of Richard has a notched Izod impact strength of 187 Joules/meter (3.35 ft-lbs/inch), while the Example 4 shows a higher Notched Izod impact strength of 6 ft-lbs/inch. This represents at least a 79% improvement in impact strength over a comparable composition, which is unexpected.

In this conjunction the courts have held that "[a]n applicant can rebut a prima facie case of obviousness by presenting comparative test data showing that the claimed invention possesses unexpectedly improved properties or properties that the prior art does

GP3-0028
08CE7421-1

not have." *In re Dillon*, 919 F.2d 688, 692-93, 16 U.S.P.Q.2d 1987, 1901 (Fed. Cir. 1990).

In conclusion, since the combination made by the Examiner does not teach all the elements of the claimed invention, since there is no motivation to combine references, and since the results disclosed in the present application are unexpected, Applicants respectfully request a withdrawal of the rejection under 35 U. S. C. § 103 (a) and an allowance of the claims.

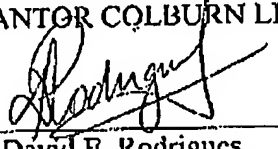
It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By


David E. Rodrigues
Registration No. 50,604

Date: 23 June 2005
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No.: 23413